

AN ESSAY



INSECTS INJURIOUS TO VEGETATION

AND HOW TO GET RID OF THEM:

DR. C. A. GREENE

OF HARRISBURG, PA.

The within communication was prepared at intervals of leisure, amid excessive office duties, by the Author, at the request of

JUDGE GEO. D. STITZEL, OF READING, PA.,

AND READ BEFORE THE

Members of the State Horticultural Association of Pennsylvania,

At their Annual Meeting, in the State Capitol Building, at Harrisburg, Pa.,
January 17th, 1883, and is printed (in part) in the Agricultural Reports
of Pennsylvania, for 1883, and is now reproduced at a good deal
of expense and use of valuable time by the Author, (pro
bono,) and dedicated to the various Agricultural,
Horticultural and Vinacultural Organizations in the United States.

Hoping they will (aided by the Agricultural Press) organize committees in the different States and make constant applications to their Congressmen of each District to carry out the within suggestions. If done, the Writer will be amply compensated for his loss of time and his expenditure of money.



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INSECTS.

BY DR. C. A. GREENE, OF HARRISBURG, PA.

This communication was read before the members of the State Horticultural Association of Pennsylvania at their annual meeting at the State Capital Building in Harrisburg, Pa., January 17th, 1883, and published in their Annual. It was prepared in the midst of office duties by the author, and hence imperfectly written. It was done by the request of the worthy President of the organization, Judge George D. Stitzel, of Reading, Pa., and is now republished solely at the expense of the writer pro bono publico.

Gentlemen of the Horticultural Society:

I have prepared a brief essay on insects injurious to vegetation, and how to get rid of them in the speediest, simplest, and most economical manner. Hoping it may, in some way or manner, so start up investigation that all of the agricultural, vinacultural, and horticultural organizations in the United States shall so take hold of the theme, aided by the agricultural press, that Congress will be compelled to appoint a Commissioner of entomology, whose whole duty (assisted by competent aids) shall be the collecting together of all known insecticides, and thoroughly test the virtues of them; and make all investigations possible upon the subject of rapid destruction of insect pests. Keep in books (set apart for the purpose) an accurate account of all experiments; and, finally, print, in plain English all their experiences bearing upon the theme so plainly written or printed that every one desiring the information can have it at a nominal cost. technical and entomological terms are not understood by farmers in general, they should be left out of this work; only specific, simple matters introduced, bearing upon the subject; and when we take into consideration the vastness of the injuries done by insects-how that millions of dollars' worth of wheat, fruit, cotton, and other vegetable matter is annually destroyed—that hundreds of farmers have abandoned the attempt to raise plums, and that whole orchards are often ruined by the ravenous bug; and that it is an uncommon occurrence to-day, in any portion of our vast continent, to take up an apple that is free from insect injuries. When Professor

Riley says that, as a nation, we annually lose by insects over \$400,000,000' and Professor Agassiz said, More than a lifetime is necessary to enumerate and describe the different species of insects! When locusts have been seen in Elizabethpol, Russia, so extensive in numbers as to extend over thirtyfive squares of verst, and so powerful as to compel a regiment of soldiers to "right about face!" When the San Francisco Bulletin says that from 1873 to 1877 the locust damaged vegetation in that portion of the country to the tune of \$300,000,000! When single individuals, like Professor Riley, have passed over to the National Museum, at Washington, one hundred and fifty thousand specimens! When Professor Mieger, of Germany, made a collection of six hundred specimens of flies, and other prefessors enumerated twenty thousand varieties of insects that preyed upon the wheat in Austria, Germany, and Russia. When Professor Davidson, of San Francisco, has made a collection of sixty thousand insects, and Herman Strecker (a marble-worker, of Reading) has brought together and labelled over fifty thousand varieties of the butterflies alone; and the phyloxera has depopulated whole vineyards in France, and destroyed millions of dollars' worth of vines! These accumulated statistics certainly indicate that the time has positively arrived in the history of the United States, that Congress should take hold of this extremely important subject with ungloved hands, and at once make a munificent appropriation for the purpose already described; and right here and now I publicly protest against entomologists any longer using the paradoxical word "remedy," as applied to insecticides. This word is in all dictionaries defined as a cure—something to heal; to preserve, &c. It might possibly be twisted to kill; but the idea conveyed by the word is obnoxious to any one who is anxious to kill off insects thus destructive to vegetable life. Now, as there are over two hundred and thirty farmers' clubs in the New England States, and over two thousand agricultural societies in the United States, and over three hundred and sixty agricultural papers and publications, if they will, as a unit, unite in asking Congress, through their representatives, to create a Commissioner of entomology, with duties as above referred to, I am satisfied it will soon be brought about. If it does not, we must cling together until effected. Remember that Morse hung around the city of Washington for a dozen years, imploring aid to put up an experimental line of telegraphic wires between that city and Baltimore; and that many a stupid called him a lunatic while thus engaged! Remember that John C. Cresson and many other citizens of Philadelphia sent a long petition to this city, about 1835, praying that the representatives would not give a charter to certain persons who wanted to illuminate the city with gas; and that the petitioners stated, among other cogent reasons, why it should not be granted, that the refuse gas-tar running into the Delaware and Schuylkill rivers, would kill the fishes and unfit the water for drinking purposes; and that the gas in the pipes in the various streets might all be exploded at once and destroy the city.

And less than twenty-five years after the time that the petition was forwarded to this city, John C. Cresson was president of the gas company so objected to. Remember that Obadiah Grose, of Pennsylvania, used hard coal in his blacksmith shop in 1768, and that in 1791 Philip Ginter discovered anthracite coal on the Lehigh, and that Robert Morris bought six hundred acres of this same land in 1802, and formed a company to work it, and found a fifty-foot vein of these hidden diamonds; and yet the time had not come to have it appreciated, and they leased it for twenty years to White & Hazard, at an annual renting of an ear of corn; and in 1839, David

Thomas used antiracite for making pig metal successfully, and the twenty ears became worth \$20,000,000; and the out-put of coal in Pennsylvania alone was twenty-nine million five hundred thousand tons in 1882. Don't expect any help from the United States Commissioner of Agriculture; don't

ask for it. Make the applications direct to Congress.

In 1878, a gentleman accidentally discovered, in Schuylkill county, an immence body of decomposed iron pyrites, made up, as you know, from sulphur, alum, and iron, and he sent it to his farming neighbors to use for fertilizing purposes. Professor Hollenbush, of Reading, made an analysis of it. discovered that a rose bush, that for years had been half dead, revived after an application, and bore the next year seventy perfect roses, when less than a score of imperfect ones was the annual bearing previously. In 1880, I tested it in a garden and found that a dwarfed peach tree was really over full of leaves and fruit at the end of the harvest season, and that bugs of all kinds hated it so far as I examined its merit. I then wrote to Commissioner Loring, and stated these facts, and offered to forward a half ton for a nominal price, so that abundant experiments might be made, and was informed by him that he had no power or permission to invest one dollar for the fer-"Commissioner Loring, of the United States Agritilizer and insecticide. cultural Bureau, offered \$14,000 in prizes for essays upon various branches of husbandry, designing to pay the prizes from the appropriation for experiments in beet sugar and sorghum culture; but First Comptroller Lawrence, of the Treasury Department, apprised the commissioner that the intended diversion of money without authority of Congress would be illegal."

The above communication I cut out of a newspaper. I was a little chagrined after reading it, and thinking that my importunities to Mr, Loring to invest five or ten dollars in a new fertilizer and insecticide were so singularly unsuccessful, when there are millions of tons of this compound in Schuylkill county, and the great study to-day is to find the best fertilizers, and the simplest method of destroying insects injurious to vegetation, and, maybe, these pyrites may turn out yet exceedingly desirable. Scores of farmers in the vicinity of the mine, speak of it in the highest terms as a

fertilizer.

In 1881, I made a personal call upon Mr. Loring in Boston Mass., and told him that I had, since 1842, been collecting receipts for killing injurious insects, and that I would place them in book form so they could be disposed of for thirty to fifty cents, containing lists and statements concerning all known insecticides, provided that he or the Government would render some aid. He gave me no encouragement. This Society is aware that since the first entomologist was attached to the United States Agricultural Department, there has been little or nothing done toward collecting such statistics. Professors Glover, Comestock, and Riley, have been studying the haunts and habits of insects, and making extraordinary exertions to find some new variety, instead of bending all their energies to find methods to destroy them.

Professor Riley's treatise on the potato bug is a masterly production, but his numerous pamphlets upon insects are, in the main, worthless, except to regular entomologists, of whom, really experts, there are not three hundred in the United States, whereas there are forty millions of men and

women interested upon my theme.

There are few subjects which have more widely received attention from farmers, than the one of "how shall I get rid of insect pests?" and the great majority of them have come to the conclusion that they cannot successfully cope with them. No systematic attempt will be made to lessen the

innumerable throng until Congress does take hold of it. Individual efforts here and there, no matter how well conducted, must end in failures, if their neighbors do not act with them. There is no doubt but that the combined intelligence of man is superior to that of the curculio, army worm, locust, or borer; but when the enemy is found in such immense; incalculable numbers and varieties, and extends over so vast an area of territory, they cannot be annihilated or even decimated only by combined, systematic, methodical, concerted action; and for a subject of such vast importance, men of decided talent should be brought together in sufficient numbers to do the subject perfect justice and then insects will gradually decrease in numbers, as bears, wolves, foxes, wild turkeys, and other game, have been deci mated all over this continent. But the Government must act magnanimously. Suppose it does cost a few millions of dollars, see how many millions it would save to the people! If this Society will set the ball a rolling by publication of this essay or others, and distribute them to all similar bodies interested upon this matter, it may be the right kind of entering wedge.

It is a singular and unaccountable fact that no book, as referred to above, has yet been published in America. Walsh, long ago, suggested the necessity of such a work. The work of Harris is altogether too voluminous and expensive, and, besides, does not contain one one

hundredth part of the known insecticides.

The late work issued by Judd & Company, purporting to have been the results of the experiences of many, is the best work ever published, but it is only a commencement, and is altogether too classical and expensive for farmers. When the number of insects in the world exceeds all other kinds of organic life, of what earthly good is it to publish their separate haunts and habits, accompanied by minute microscopical dissections and long technical descriptions of them? The farmer who is desirous of coping with them understands as much of such jargon as does a freshly arrived Esquimaux of modern civilization. Concerning the above hangs a tale. About one year since I corresponded with Judd & Company, on the subject of publishing my book as above, and quite at length I described the necessity for such a work. Various answers came to my correspondence, requests to send my manuscript, etc., to submit to Professor Riley and other persons, all of which letters I had written at the suggestion of the oldest book-dealers in Boston, Mr. Burnham, Mr. Casino, and other publishers You may judge of my surprise when, some months afterward, I learned that Judd & Company had issued a work at a cost of two dollars, and under the name of Mrs. Treat; and any one who examines it will see it is in the main the handiwork of Mr. Riley. Look at pages sixty-nine and seventy, and you will then see Mrs. Treat referred to as any entomological outsider would be mentioned. They attempted to steal a march on me, but it is first, too classical; second, too expensive; third, the methods of killing are too few and indefinite.

Entomology.

As already said, the number who have studied the above science and made themselves known in this country, amount to only a few scores. There has occasionally come to the surface men of decided talent, who have made herculean efforts to interest the people in so studying the haunts, habits, and forms of insects as to outwit them in the race for life. The Entomological Society of Philadelphia has been doing good work for many years, and have published many volumns of their transactions. In

1865 an enthusiast, named Professor E. T. Cresson, a member of the above society, with others, started a magazine called the "Practical Entomologist." It was printed in good style, and lived until 1868, when its existence terminated. The eminent scientist, Benjamin D. Walsh, was one of its editors. Mr. Fitch, like many other pure philanthropic sons of science, worked for years, almost in poverty, to perfect himself in this study and to enlarge his collection. At his death his extensive cabinet became neglected, and was finally broken up and disposed of at a nominal sum, and lost to the world.

It is a curious and unlovely picture for man to look upon, when he was created a little lower than the angels, and born to rule over all living things, especially seen when you look at the really wonderful works of man in the Egyptian Pyramids, in the Leaning Tower of Pisa, in the ruins of Palestine, Pompeii, Herculaneum, the tunnels under the Alps, etc., yet here is the plain statement; he is not equal to the task of successfully coping with fragile little insects. But let me again say that I am fully satisfied that the unsuccessful result is all caused from a lack of proper investigation of the facts as herein stated, and a proper selection, by our Government, of the right kind of forces. The United States is making gigantic strides forward in almost every department of science. This one seems to have been sadly neglected. The Government has reached that position in our educational growth that new commissions should be established to assist every department of manufacture and development in all the phases of our national life. You may well be astonished when I tell you that in the combined libraries of the city of Boston and Cambridge, representing over a million of volumes, I could not find one on the subject of my theories, and in the library of the Boston Athenœum there were seventy-six works on insects. We need now, first, a General Commissionor, whose duty it shall be overlooking all the others, then a Commissioner of Entomology, backed by an appropriation of half a million, to go into the work with a persistent determination to succeed. A Commissioner of Agriculture, another of commerce, another of geology, whose duty is to assist in the development of the mineral wealth of this country, and one on Indian civilization.

Professor C. V. Riley says, in the December number of the New York Agriculturist: "The chinch-bug defies all our efforts when they are in full force upon us. When a field of wheat is once overrun with chinchbugs man is (in the majority of cases) powerless before them." Hon. G. B. Loring, United States Commissioner of Agriculture, and others, made a variety of speeches at Atlanta, Georgia, November 2, 1881, which are printed in pamphlet form. Among these may be found the assertion of Prof. Riley, who said: "The injuries we, as a nation, sustain from insect ravages have reached, in a single year, nearly \$400,000.000." Now, to excite an especial interest in the magmitude of our losses, and to hold out an unanswerable argument to our Congress, to take hold of this matter, let us briefly see what an enormous sum of money is thus wasted. A million silver dollars weigh about thirty-one tons, and thirty-one tons multiplied by four hundred millions equal twelve billion four hundred million tons. Now, if a horse, cart, and one ton of silver occupied, on a road, fifteen feet in length of space, it would take twelve billion four hundred million horses and carts, etc., to carry off the above quantity of silver, and if the caravan of horses and carts were driven in a single line they would reach thirty-five million two hundred and twenty-seven thousand two hundred and seventy-two miles, or nearly one thousand four

hundred and sixty-eight times around our globe. Prof. Riley does not stop with the above weighty statement, but he adds the following marvelous one to it: "A female moth of the cotton worm may be the mother, in two months, of twenty billion incipient cotton worms." In 1750, Linnæus called the attention of the people to the alarming fact that over \$600,000 worth of barley was annually destroyed in Sweden alone, by insects. The Governor of Tasmania, at Hobartson, exhibited a good deal of zeal in 1877, and formed a committee to examine and find out the best methods of killing the codling moth.

In 1849, Alexander von Humbolt estimated the number of insects preserved in collections at between one hundred and fifty thousand and one hundred and seventy thousand; Europe alone being represented by more than three times as many species of insects as of phanerogamous plants. Ten years ago Dr. Gerstacker estimated the number of species of insects to be two hundred and twenty-five thousand—five times as many as the known species of all other classes of animals together. If we assume that there exists in the whole world only three times as many insects as there are phanerogamous plants—the latest estimate of which approaches two hundred and twenty-five thousand—we arrive at the startling sum of about seven hundred and fifty thousand. Bewildering as this estimate appears, it is probably too low. The oak alone gives shelter and support to four hundred and fifty species of insects, and the pine to more than two hundred, and one moth alone has thirty-five different species of parasites! Without going further in our calculations, we may safely assert that if the number of species of all other classes of animals should be doubled by new discoveries (which is rather improbable for some classes and impossible for the vertebrates), the number of species of insects would be more than five times that of all other animals taken together.

Now, if the Government will only put on a sufficient force to fully study this subject they may make many new discoveries in finding sure insecticides and may find, also, many profitable uses for the pests. It is well known that an expensive business is now done in propagating the silk worm for its uses, the cochineal for its coloring properties. The Spanish fly for its blistering qualities. The grub of ants for the food of mocking and other birds. The bed bug is administered by some Homeopathic physicians as a cure for fevers, also a powder is made of this nasty insec by allopathic physicians to be used in curing chills and fever, and it has been administered as an emenagogue, and the Pediculus capitis has been used medically to cure headache, and the spirit of ants is an officinal preparation in a German pharmacopœia, and Dr. E. T. Brush, of Mount Vernon, gladdens the hearts of his countrymen by publishing the statement that the large black ants, so common in the pine forest, will, properly prepared, cure scurvy, and that the lumbermen of Maine are well aware of this fact, as they always eat them when so affected.

I repeat, we are an immense country and the onward strides we are making are unparalleled, and that now the fitting time has arrived to push this important matter. To briefly show another phase of our progress, let me say that, in 1754, Benjamin Franklin was appointed Postmaster General of the British Dominions of North America, with permission to make \$6,000 a year (if he could) out of the postal service, to be paid in the continental paper money of that day, and that in 1790, when George Washington was the first President of the United States, there were only seventy-five postoffices in all of our country, and now we have so rapidly

progressed in civilization and scientific robbery that \$1,300,000 a year has been stolen from that department alone for more than ten years, and only recently discovered.

Work for the New Commission.

Insecticide receipts are very commonly found written something like the following: "Coal tar water is sure to kill petato bugs." Now, the commission want to take all such receipts, of which their number is very voluminous, and theroughly test each one. Take, for instance, one ounce of coal tar, of a standard strength, to six ounces of water, and apply it to scores of various insects, and properly note results, and then finally make definite statement of the facts. The following problems should be solved: How great a degree of cold will kill insects in general? How great a degree of heat will bring about the same results? What class of insects will withstand, without injury, excessive cold? What degree of cold will ruin insect eggs? What degree of heat will bring about the same condition? How long must the eggs, or larva, or the insect be frozen before life is extinct? What variety of insects are easiest killed and what class will the longest withstand cold or heat? Do bees destroy (by puncturing or in any other manner) ripe or unripe grapes?

Pyrethrum.

This plant should receive especial attention; for certainly its power of destroying insect life is really remarkable. Some of its properties have been known for half a century and more. There are several varieties, and they all belong to the chamomile family. I think a careful study of the daisies, so numerous in our country, will develop insecticide qualities. They similate the pyrethrum. For some unaccountable reason, Prof. Riley has been occasionally urging the readers of his productions to believe he was the discoverer of its insecticide qualities. In the New York Agriculturist of April, 1882, is an article on this plant, saying that Prof. Riley has had great difficulty in obtaining the seeds to cultivate it and test its properties. In another communication published by Prof. Riley, he says he was the first one to bring the insecticide qualities of it before he public; whereas, any one who will examine the United States Agricaltural reports of 1861, page two hundred and twenty-three, will find the pyrethrum Roseum of the Caucasus described fully in a long article, and every variety of argument offered to get farmers to grow it and test its merits, and other varieties of the pyrethrum are also described the P. Cineæria folium, etc. It has been described by many other writers. Hanaman and Coch, of Germany, wrote about its insect-killing properties in 1863, and stated that 'Its peculiar virtues were well known long before that time." A firm in California (whose address I will give to any one desiring it) have, for several years, been cultivating over eight hundred acres of this plant, and supplying it to druggists to sell. In 1848, the writer kept a drug store in Providence, Rhode Island, and sold what then was merely known as a bug destroyer, which he obtained from druggists in Boston, and they obtained it from Europe. This same powder, under a score of names, has been sold by druggists ever since, each druggist giving it (if he chose) an especial name. The most common ones were Persian and Dalmatian insect powder, several devices have been patented to throw it easily and speedily into the haunts of the insects. Some of these devices have made immense fortunes to the owners, and during all

these lapse of years our agricultural commissioners have kept so quiet upon this subject that Prof. Riley honestly believes himself the introducer of this marvelous shrub, and the insects, in general, have had their own way undisturbed, in the immense destruction of vegetable matter. Let me repeat that pyrethrum, as an insecticide, has been well known for years, and that thousands of druggists have been selling it all over the United States for at least thirty-five years, under various names, and let me say definitely, had the entomologists connected with the agricultural department have shown as much anxiety to find insecticides as they have new varieties of insects, the seeds of this pyrethrum would have been sent long ago into all the States of the Union. It will grow whereever the chamomile grows, and it is one of the most remarkable insecticides so far known to mankind.

Curculio.

During the years 1861 to 1868 I was a member of the Cincinnati, Ohio, Horticultural Society. In August, 1867, Dr. John Warder, the eminent pomologist, and myself, were appointed a committee to visit certain fruitgrowers in Covington, Kentucky, who had successfully destroyed the plum curculio, (which for years had ravaged their trees) and succeeded in raising an enormous yield of the Dawson and other plums. We first visited Mr. J. Bush; he had some twenty trees which had for many years blossomed freely, formed in part the plum, and dropped off half made with the crescent shape sting of the curculio upon each green plum. his trees loaded with fruit, except two of them, which he purposely neglected in order to test the benefits of his treatment, which was as follows: He covered the ground under the tree (to the full extent of the spread of the branches) with common marble dust. Wherever used the plums were intact; where not used no perfect plum was seen. I will not here attempt an explanation. We next visited another gentleman who had some fiftyfive trees, all in good bearing condition for years, but annually visited by the curculio, and the fruit destroyed; we there found fifty trees full of excellent fruit, and five with none on them in perfect condition. The fifty bearing trees were thus treated: As soon as the blossoms appeared, and every other morning, until the fruit had formed, while the dew was on them, he fumigated the whole tree with the smoke of tobacco. He made an iron basket, filled it with tobacco refuse stems, placed the basket on a pole, and passed the smoking, burning tobacco all around and through the branches. Now, I have introduced these two good results to prove that the reason of man is able and sufficient to cope with the instinct of insects, and I again say, to make it more impressive, that, properly handled, the question of getting rid, to a very great extent, of insects injurious to vegetation is, or may be solved,—and I here must, too, add, that I believe fully and candidly that it can be done without recourse to the deadly poisons, and especially Paris green, and London purple. The first one is composed of arsenic and copper, and the last one of arsenic and lime, and I say, advisedly, that the sending them through the numerous druggists. of this country into the thousand homes of the farmers is cruel and wicked in the extreme. If an ounce is divided into four hundred and eighty parts, one part is a grain, and one grain of Paris green taken into the body by respiration, or into the stomach, or into the body by absorption, that is, by handling it, may produce death. I have, since the general introduction of these poisons, collected together a very large number of cases where men, animals, and birds have been killed through its use.

Some other time I will recite them in detail. Reynold & Co., New York, who have sold tons of it, say in their book on the subject "with careless

handling it is highly dangerous."

In Packard's Bulletin No. 4, published by the United States Government in 1880, he especially advises farmers in general, who are annoyed with a minute Hessian fly, to gather and breed the parasites of this insect. Let us criticise this wise suggestion. There are not fifty really scien tific, educated, entomological experts in the whole of the United States, and there is not one farmer in one thousand who is sufficiently acquainted with the study as to be able to follow above instructions, and if they could, just imagine the farmer with all the necessary paraphernalia to collect, keep, preserve, and breed minute parasites, then, imagine them scattering them in due season over their wheat-fields to attack and destroy the fly. Carry out the suggestion on a large scale, and attempt so to teach farmers to collect and protect the parasites of one thousand different injurious insects, the absurdity becomes more apparent as you examine the nonsensical proposition. Let me go a little further: Kaltenbach describes over five hundred and thirty species of insects injurious to the oak, and over three hundred and ninety species injurious to the willow. Now, imagine a thrifty farmer with two hundred acres of land to till, with a few hundred oak and willows, studying and collecting at his leisure the parasites of these nine hundred and twelve varieties of insect life, and in numerous books keeping an account of their forms, habits, and peculiarities, and in various boxes and vessels preserving them to (afterwards in due time) multiply them to kill off the injurious insects. As a further evidence of the utter impossibility of learning farmers the science of entomology, let me relate instances which speak for themselves. While residing in Lancaster. Pennsylvania, I one day found in the yard back of my office a slop-barrer which upon examining, I found alive with maggets. I collected a tablespoonful of them and presented them to Mr. S. S. Rathvon, who has been widely known as an entomologist for many years, lives in Lancaster, and has a large collection of insects. He wrote a long communication on the subject of insects, which was published in the United States Agricultural Reports of 1861. He is one of the editors of the Lancaster Farmer, and 'n the next issue stated that the insects handed him were a new species that he had never before seen. A few months since I found some snails zere in this city that were unlike any I have ever seen; one of them was searly seven inches long. I sent a dozen of them to Professor Baird, of the Smithsonian Institute at Washington, D. C., and up to the present sime he has been unable to name or classify them, and can't find any one alse who can do it.

OMNIPATHY.

In 1845, when ready to receive my medical diploma, I wrote the following to my father: "I find the theory and practice of medicine, to be so uncertain, so ambiguous and unsatisfactory, that I am unwilling (knowing my inability to cure disease) to receive my sheepskin. I want to go into some other honest avocation, or study longer, hoping to learn or discover some way of curing the numerous afflictions of the human body. The physician I am now studying with has dyspepsia and cannot either teach me how to cure it or heal himself."

My father replied: "Study as long as you desire." So I became, in six years, the student of nine M. D.'s—Allo, Homeo, Hydro, Electro, Thompsonian, Eclectic, Electric, Mesmeric, &c.—all to no avail, and in the end I became fully aware that the stomach and twenty-eight feet of intestines were intended as receptacles of food only, to be converted into blood; and that a thousand pounds of calomel, quinine, or opium, would not make one drop of this life principle—the only creative and curative agency in the body—and that by keeping drugs out of the stomach and placing nonpoisonous remedials on the outside of the body, I could readily increase the quantity of healthy blood, and hence cure disease; and for thirty-five years I have followed these simple laws, and cured thousands of the thoroughly discouraged invalids. I herewith insert a few of my advertisements:

Harrisburg, Pa., Daily Patriot.

EPILEPTIC FITS.

On the 3d of May, 1883, Mrs. J. L. Yetter, of Bachmansville, was lying in bed waiting for death to end her sufferings. She had consumption, dyspepsia, and was generally disabled, reduced to eighty pounds in weight, speaking only in a whisper, and for sixteen years she had been having terrible fits and had been dosing and drugging her body under lots of Allo. and Homeopathic physicians, and taken every kind of advertised nostrum. Her husband (a Dunkard) had sent to Colorado for medicine for her. All the advertised sure cures for fits were fully tested and found to be worthless. Over \$1,200 had been spent by Mr. Y. in fruitless efforts to find some quack or physician who could tell the truth and cure her. Having heard that the sight of his blind neighbor (John Lehman) had been restored, Mr. Y. called at my office on the above date, stated his wife's case, how long she had been in bed, etc. I told him if he fully followed my directions she could come to see me in thirty days. In a month she came into my effice, and on the 15th of September was in again. gained twelve pounds, her voice was restored, her health generally improved, and she had only one fit in four months. No itinerant, quack or regular M. D. in Pennsylvania can report a similar cure. November 7th Mr. Y. called in and said: "My wife has been under your charge six months and has had only one fit; has gained twelve pounds in weight; can eat anything; drives out in a buggy by herself; you have nearly cured her after seventeen other physicians had drugged her almost to death."

Catarrh cured for 50 cents, The remedy sent anywhere, postpaid, on

the receipt of 50 cents in stamps.

CONSULTATION FREE. Send for or call and get three pamphlets free—one on Catarrh, one of 44 pages, containing many hundreds of names of persons cured.

DR. C. A. GREENE, 35 Years' Experience, No. 22 North Second Street, Harrisburg, Pa. Shamokin, Pa., Herald.

OMNIPATHY.

I claim that drugs taken into the stomach, either in Homce or Allopathic doses, that cannot be converted into blood, injures and annoys the intestinal organs just the same as particles of lime would your eye. I claim the exclusive office of these organs is the conversion of food into blood, and that this element is the "Life of the flesh thereof," and makes every portion of the body, and that in pure blood there is no calomel, blue pill, quinine or other drugs, hence are foreign substances, when placed in the stomach, as tar would be inside of a watch; and that the heart beats 80,000 times a day to force only pure blood through our bodies, and that the whole amount goes through our bodies fifteen times every hour, and that we are constantly growing and decaying, and all the increase or growth of the body comes from blood, and that one thousand pounds of quinine will not make one drop of this life principle.

Have I proved my statements true? In seventeen months over 1,700 persons who had tried the drugging system, have placed themselves under my charge. Some, after trying in vain twenty physicians, and under my methods, the majority of them are all well, and no deaths among these numerous patients, with only a few exceptions, whereas, under other physicians, in this city alone over three hundred and forty persons have been buried. Will you tell me of any further tests that I ought to make to convince invalids and sick persons? If you will I will gladly made

them. I am very anxious for the most searching investigations.

Harrisburg (Pa.) Telegraph.

WARNING.

Over 3,500 persons have visited my office in 17 months, and they have universally made the following statements (with a few exceptions): I have been ill for years. Have been drugging myself under various Allo and Homeopathic physicians to their heart's content; have also swallowed quarts of quack medicines only to find myself constantly growing worse from the maltreatment of my stomach and intestines; have read your pamphlets and there discovered that I am doing all I could to kill my body. Shall be glad if you will remove the poisons and drugs from my system, and restore my health. Dr. Calderwood, of Tyrone, probably the oldest physician in Pennsylvania, has come to this conclusion, and has placed himself under my charge, with three others of his family.

May 3d—Charles Carroll, of Philadelphia, a descendant of a signer of the Declaration of Independence, had chronic diarrhea for a long time—was under the care of Dr. Agnew for over a year. Spent \$700—money

thrown away-improved in two weeks by my methods.

The distinguished painter of Harrisburg, E. B. Black, in July told me the following: "About a year ago I came under your charge for malaria, constipation, dyspepsia, &c. One of my boys had fits—the other skin disease and ulcers. I spent a deal of money for years—all getting worse instead of better. Spent as high as \$16 a month for drugs. We were all cured in thirty days, and I have saved over \$125 in a year that I haven't paid for medicines; and still better, we have all been well for the last twelve months, and it makes me very cross to know that my friends will keep on drugging themselves after hearing my experience."

I should be very glad to give \$100, in gold, to any person who could invent some method by which I could overcome the unwillingness of some individuals to believe that new discoveries are possible in medicine. I am so anxious to give away three pamphlets proving the superiority of external applications of remedials over the drugging of the stomach system, which is killing mankind everywhere.

Over 1,700 invalids have placed themselves under my charge since my sojourn in Harrisburg. Some of them, having no faith in doctors, had been dosing and drugging themselves for many years. The most of them are now well and glad that they had sense enough to investigate my claims.

Ex-Judge Ziegler, of Sunbury, a brother of Uncle Jake, suffered for 25 years with a horrible skin disease, constipation and indigestion in one of its worst forms—rarely or ever had a movement of his bowels without using salts, pills, senna, magnesia, or some other physic. Was way down, discouraged. Came under my charge (without seeing him) on the 18th day of April, 1883. In 60 days he called in to see me for the first time, and said my exzema is almost gone, and my bowels are moving every day for the first time in a quarter of a century.

WARNING.—For 35 years I have unceasingly attempted, by advertisements and pamphlets, to stop mankind from killing themselves by the use

of drugs and quack medicines. Won't you read my pamphlets?



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